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**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/883,981 06/20/01 ANDREWS

J BU9-98-225 D

021254  
MCGINN & GIBB, PLLC  
8321 OLD COURTHOUSE ROAD  
SUITE 200  
VIENNA VA 22182-3817

MMC2/0913

EXAMINER

BLUM, D

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 09/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/883,981

Applicant(s)

ANDREWS ET AL.

Examiner

David S Blum

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 8 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 8, 15 and 23 are objected to because of the following informalities: Claim 8 depends upon canceled claim 1, claim 15 depends upon canceled claim 9 and 23 depends upon cancelled claim 16. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 8, 15 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Phillipossian (US 5,316,965).

Phillipossian teaches a semiconductor substrate with raised and lowered regions with substantially vertical and horizontal surfaces, spaces between the raised surfaces (trenches) being filled with filler material, and having a planar trench region (figure 7).

4. Claims 8, 15 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Weigand (US 5,851,899).

Weigand teaches a semiconductor substrate with raised and lowered regions with substantially vertical and horizontal surfaces, spaces between the raised surfaces (trenches) being filled with filler material, and having a planar trench region (figure 4D).

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5. Claims 8, 15 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cronin (US 5,453,639).

Cronin teaches a semiconductor substrate with raised and lowered regions with substantially vertical and horizontal surfaces, spaces between the raised surfaces (trenches) being filled with filler material, and having a planar trench region (figure 11).

6. Claims 8, 15 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sahota (US 5,923,993).

Sahota teaches a semiconductor substrate with raised and lowered regions with substantially vertical and horizontal surfaces, spaces between the raised surfaces (trenches) being filled with filler material (non-conformal HDPCVD), and having a planar trench region (figure 16, column 4 lines 14-16).

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 8, 15 and 23 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by DE 197 41 704 A1.

DE 197 41 704 A1 teaches a semiconductor substrate with raised and lowered regions with substantially vertical and horizontal surfaces, spaces between the raised surfaces (trenches) being filled with non-conformal HDPCVD filler material, and having a planar trench region (figure 4).

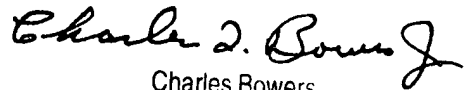
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Blum whose telephone number is (703)-306-9168 and e-mail address is [David.blum@USPTO.gov](mailto:David.blum@USPTO.gov).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Bowers, can be reached at (703)-308-2417. Our facsimile number is (703)-305-0142 and our receptionist's number is (703)-308-0956.

DSB

August 28, 2001



Charles Bowers  
Supervisory Patent Examiner  
Technology Center 2800